JPRS 77383 12 February 1981

# Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 149



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### WORLDWIDE REPORT

## TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 149

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#### WORLD TELECOMOUNICATIONS MEETING BEGINS IN GENEVA

LD261443 Kuwait KUNA in English 1142 GMT 25 Jan 81

[Text] Geneva, Jan 25 (KUNA) -- Arab league countries will meet in Geneva Monday for high-level talks on the next stage of one of the world's biggest telecommunication networks planned to link 28 countries across North Africa, the Middle East, and Europe.

Grouping all the Arab league countries, six European nations and Ethiopia, the multi-billion dollar Middle East and Mediterranean network is well on its way to being completed by 1990.

Financial help with projects in poorer countries like Somalia and the two Yemens has come from the Kuwait-based Arab fund for economic and social development.

The regional network, coordinated by the International Telecommunication Union in Geneva, a United Nations specialised agency, provides for nearly 30 million telephone lines and over 300,000 telex lines. The number of phones per hundred people in the Arab world is to be increased to an average of 15-17, instead of the current average of three.

The scheme, including television and radio exchange facilities, is now in its third year of implementation. It is closely linked with the Arab league's satellite communication system, "ARABSAT" which will be represented at the four-day annual meeting in Geneva.

The rapid expansion in telecommunications by Saudi Arabia, Bahrain, Kuwait, Iraq, Jordan and others make the need for "ARABSAT" more and more necessary, its officials said. Arab investment for national plans in the 1980's is estimated at over 20,000 million dollars.

"ARABSAT's" main contractor should be chosen in the next few months, and the satellite might be operational in 1983, although officials here consider 1984 more likely.

The ITU says ARABSAT, costing more than 24 million dollars, will play a major role in linking Arab countries with each other and the outside world.

The Geneva meeting will also discuss final details for two submarine telex cable arteries, from the Gulf to the Far East, and from the Eastern Mediterranean to America, via Europe.

#### BRIEFS

USSR-SWEDEN TV PROTOCOL--A protocol on cooperation between Soviet radio and TV and Swedish TV for the current year has been signed in Moscow. It entails an increased exchange of TV programs on the life of the people in the Soviet Union and in Sweden as well as mutual help in the making of programs concerning the most important events in the two countries. Special attention is paid to material in connection with the 26th CPSU Congress. [Text] [LD312312 Moscow Radio in Swedish to Sweden 1900 GMT 30 Jan 81]

ADVANCES IN COMPUTER FIELD FOR 1980 HIGHLIGHTED

Canberra THE FINANCIAL AUSTRALIAN in English 23 Dec 80 p 4

[Article by Douglas Moore: "Industry Ends a Successful and Busy Year"]

[Text] The computer industry achieved a greal deal of success in 1980. Douglas Moore examines the highlights of an exciting year.

The year just ending was an extremely busy one for the computer business, crowned by the success of the 8th World Computer Congress in Melbourne in October. Here are some of the computer news highlights of 1980.

January: The Australian Computer Society introduced its computer industry training program, initially designed to teach 51 trainees the basics of programming. IBM announced advances in superconductivity, claiming to have made and tested the smallest ever experimental electronic circuit elements. Telecom announced plans to offer a packet switching service by 1982. ICL introduced its Service-skil range of services. Natsemi Advanced Systems announced the IBM-compatible AS/7000 series made by Hitachi of Japan, and also its own AS/3000 IBM-compatible series.

February: Hewlett-Packard unveiled its HP-85 personal computer. The Systems Research Institute of Austra 14 was launched in Perth on the initiative of Univac and the WA Government. Olivetti entered the mainframe market in Europe with systems from IPL of the US and Hitachi of Japan. UK company Sinclair launched its \$200 personal computer, the ZX80. IBM unveiled its cheapest computer ever, the 5120. Natsemi announced its AS/5000 series.

March: IDC figures revealed that, taking all worldwide information processing revenues into account, IBM led the field in 1979, followed by NCR, Burroughs, Univac, Control Data, DEC, Honeywell and Hewlett-Packard, in that order. Prime announced its model 250 low-end 32-bit mini. ICL unveiled its ME29 computer series. IBM introduced its 6670 for "the office of the future."

April: Reports from Japan indicated that Japan was moving into the lead in VLSI circuit technology. The first Urwick/Australian survey of opinion in the computer business revealed that the boom in the Australian computer business showed no sign of fading. A \$235 million bug was reported in the Department of Health's

pharmaceutical benefits system. IBM announced advances in speech recognition by computer. Univac announced its System 80 for the same market as the ICL ME29 and smaller versions of the IBM 4300. In the UK researchers at Warwick University were examining the future feasibility of making bio-chips for use in medical biology. My name for female biochips will be titbits. Facom was chalking up a number of competitive orders for its M Series and said that 80 percent of these sales were to new customers.

#### Challenger

May: Gallium arsenide emerged as a possible future challenger to silicon in chip manufacture. Data General announced its 32-bit Eclipse MV/8000. IBM announced more powerful 4331 processors—the 4331 Group 2s. May saw the start of a month long national journalists' strike over payment for working with VDUs. Facom released its V830 mini.

June: Two false alarms, two days apart, put US nuclear forces on alert. An integrated circuit failure was blamed, though some suggested that the US was deliberately playing at nuclear brinkmanship. Either way, few felt that the world was a safer place to live in. Control Data announced the Cyber 205 supercomputer. The Thornton Report—"Computers in Australia—Part II" commissioned by the Foundation for Australian Resources—said that computers had been a very worthwhile commercial investment, but that Australia was still 50 per cent undercomputerised. Hartley Computer notched up its 1000th order for its Hapas system for professional accountants. IBM announced several enhancements to its 303X computers.

July: D.D. Webster Electronics announced plans to open its first overseas branch in New York. The second Urwick/Australian survey revealed that many organisations were planning to increase their spending on packaged software, albeit reluctantly. Nixdorf said it planned to enter the mainframe market. The proposed merger between Storage Technology and Amdahl was called off. Datec's EDP Forecast for 1980 showed that staffing costs continued to rise and accounted for 48 per cent of DP budgets. DEC's Max Burnet said that for the cost of a few F18 fighter planes, Australia could have a silicon chip manufacturing industry.

August: Information Technology Week attracted a great deal of interest. The Meyers Report on Technological change in Australia, though welcomed in some quarters, attracted a great deal of criticism in others. Professor Vance Gledhill of the NSW Institute of Technology dubbed it the "Nero Report" in contrast to France's Nora Report. The Data 80 computer exhibition and seminar series was voted a big success. Actrol Automation introduced Unimation's Puma industrial robot to the Australian market. The Federal Government contributed an initial \$1 million towards CSIRO's research into computer chip design.

September: Storage Technology declared its intention to take over Documation. Burroughs launched its B5900 series in the market for medium sized mainframes. The third Urwick/Australian survey revealed a boom in the use of subcontractors—one result of the shortage of skilled computer staff. Prime introduced its OAS

(office automation system) software for its 50 series computers. Facom said it had sold 60 V830 minis in the first four months of marketing. IBM announced its 4341 Group 2 processors. Allegations and denials of skulduggery in the selection process for the Department of Housing and Construction's computer system flew back and forth. Information Electronics laid off 41 of its 107 staff in the wake of a liquidity crisis.

October: Hartley launched its Australian manufactured 3900 computer. Adaps People set up an international division. IFIP's 8th World Computer Congress in Melbourne was a huge success and put Australia on the international computer map. Electronics Research Australia announced its "data scrambler" device. Wang released a new 2200 series product, the LVP small business system. DEC announced a smaller 32-bit machine, the VAX-11/750. Burroughs revealed plans to take over System Development Corporation. Natsemi announced plans to market Hitachi's AS/9000.

November: Burroughs introduced its B900 series of small business computers. EMI (Australia) and Sperry Ltd formed a joint software services company, C3 Pty Ltd, for defence projects.

#### Enhancements

ICL announced enhanced hardware and software products for its 2900 series. Storage Technology announced plans to enter the mainframe market. IBM announced what everyone else calls its first "H-Series" model, the 3081, rated at 10.2 Mips. Moran Macpherson went into voluntary liquidation and its user base was acquired by Kalamazoo.

December: Datronics said it would market Mohawk's MDS Series 21 data capture and distributed DP systems. There was speculation that National Semiconductor may set up a \$100 million chip factory in Canberra. Hewlett-Packard introduced its topend 3000 Series 44 business computer. The fourth Urwick/Australian survey showed an increasing demand for computer staff at all levels, but owing to the shortage of staff the demand is unlikely to be satisfied. Amdahl announced its 580 series in opposition to IBM's 3081. The smaller of the two 580 models is rated at over 14 Mips, the larger at 25 Mips.

If the computers and people in control of the nuclear forces behave themselves and allow 1981 to take its course without a big bang, that year too will no doubt also be an eventful and interesting one.

I wish everyone a Cool Yule and a Merry New Year.

#### EXPERT CALLS FOR LOCAL HIGH TECHNOLOGY DEVELOPMENT

Canberra THE FINANCIAL AUSTRALIAN in English 9 Dec 80 p 6

[Article by Douglas Moore reporting on paper by Professor Vance Gledhill, dean of the faculty of mathematical and computing sciences at the NSW Institute of Technology: "High Technology Industry in NSW"; presented at the recent annual conference of the NSW branch of the Australian Computer Society]

[Text] Australia must develop a high technology industry if it is to remain independent and economically competitive, according to Professor Vance Gledhill, Dean of the faculty of mathematics and computer sciences at the NSW Institute of Technology. If it fails to do so jobs, the balance of trade, and Australian sovereignty and self-confidence are all in peril.

Australia must develop a high schnology industry, and that industry should be based in NSW, according to sor Vance Gledhill, Dean of the Faculty of Mathematical and Computing 5. es at the NSW Institute of Technology.

In a paper, "High Technology Industry in NSW," prepared for the recent annual conference of the NSW branch of the Australian Computer Society, he says there is no substantial microelectronic manufacturing industry in Australia and no evidence that the question has even been addressed seriously.

I believe that Professor Gledhill's paper should be read by everyone who is interested in Australia's future, or lack of one.

He quotes the International Bureau for Informatics, a UNESCO agency: "Countries that are becoming aware of the importance of informatics and are taking appropriate steps are those that will be most advanced by the end of the 20th century, while those that neglect the phenomenor will face difficulties in the year 2000, regardless of their present level of development."

He says Australia has the makings of a computer software industry, "but that is so concerned with surviving on a day to day basis that there has been little opportunity for forward planning and development." [as published]

Telecom, he notes, has recently purchased its advanced exchange system valued at \$500 million from a country with a smaller population and one that should have no greater claim to expertise in high technology.

His paper examines some of the reasons for Australia's parlous position and proposes means for establishing a viable high technology industry in NEW.

"High technology refers to the sector based on microelectronics," he says.

"It could include the design and production of the microelectronic components themselves -- the manufacture of 'chipa.'

"It could also include the design of these components into computers, the associated peripheral equipment and their production.

"These components would also be used to develop communication devices and specialised items such as digital instruments and data loggers. A necessary service industry would need to be developed around these products.

"Finally," Professor Gledhill says, "high technology industry would include the software needed for the control and application programs required to support microelectronic equipment."

In the late 1950s, he points out, Australia had the nucleus of a computer industry. Unfortunately, that advantage has been completely lost."

Today the proportion of computing equipment made in Australia is tiny, and the multinationals which supply the bulk of the equipment "have not been attracted or coerced into establishing a manufacturing plant in Australia."

However, several Australian companies have developed excellent computer products, he says.

"But they have all encountered the same difficulty--they have not been able to raise sufficient venture capital to honor their contracts without relinquishing control of their affairs."

Employment in the Australian electronic manufacturing industry has been steadily declining: "In 1970/71 the industry employed about 35,000 people. Today it employs about 20,300."

And, on the software side, "As a general comment, it would be true to may that most of our local software houses are mainly concerned with writing local applications, programs with little attention being given to the international market."

Our research centres in universities and government have been notably unsuccessful in developing systems that have been widely adopted overseas, he says.

#### Sovereignty

He marshalls a number of arguments in favour of the establishment of an Australian high technology industry.

~-The trade balance: "The annual Australian import bill for computer hardware will be in excess of \$1000 million within the next decade alone.

"The cost of software licence fees to our overseas trade balance is difficult to estimate, but is also a highly aignificant figure."

--Unemployment: By purchasing our computers and software overseas, mainly from the US, we are increasing employment opportunities in that country at the expense of local jobs.

--Lead times for components: "Australian innovation and development is being frustrated by being at the 'back of the queue' for component deliveries. Our electronics industry is increasingly vulnerable to world supply and demand."

--Control of software industry: It is difficult, he says, to establish a stable software industry when the software engineers have no control over the introduction of the hardware and no geographically reasonable access to the hardware suppliers.

--Australian advertighty: "The French have relentlessly and admirably pursued a policy of independence in all matters ranging from defence, its own computer industry, to its unique culture.

"With Australia's increasing dependence on overseas supply of high technology products, there is an implied loss of control over our own destiny."

--Brain drain: There are no significant challenges in high technology in Australia, he says. "It is little wonder that many of our greatest talents are leaving this country forever to take up positions in the US high technology industry--to the detriment of our fledgling industry."

--Self-Confidence: "The more we assume we cannot develop advanced industries, the deeper will be our loss of self-confidence and the harder it will be to recover."

~~Loss of skills: Many major repair tasks have to be referred back to the source country because we lack the necessary skills. "This loss of skills can cause major delays in the development of innovative products--these delays can mean loss of competitive edge.

It is not possible to turn the clock back but Professor Gledhill believes a local industry should be developed as a matter of policy as soon as possible.

For example, customised circuits could be designed in Australia.

"The initiative for this work within CSIRO is an encouraging, but insufficient, start."

NSW, he says, is the best place for a local high technology industry. Comparing NSW with California's "computer belt," he says the population of NSW is large enough to use its preferential purchasing power to support a local industry. NSW, he says, is dominant in Australia's electronics industry: it employs 68 per cent of the people working in the industry.

"Just as new American computer companies automatically establish major activity and employment opportunities in California, so NSW would attract a similar level of activity."

However, he mays, perhaps the most frequently cited obstruction to the development of risk industry in Australia is the lack of substantial venture capital.

"The CITCA (Myers) Committee recommended that the Government sponsor the establishment of a private venture capital corporation to provide risk capital to facilitate the bringing to production and marketing of promising inventions.

"To date, no plans have been proposed by the Government."

Australia, he says, must develop export oriented industries in order to remain independent.

"Australia has time and time again produced major technological innovations, only to see them developed profitably by some corporation in another country."

And investment in research and development is a necessity, not an option, for high technology industry, he says.

#### Assistance

Professor Gledhill believes it is vital that Government makes a decision to support high technology industry.

The NSW Government, he says, could assist in several ways.

--Purchasing policies: "By showing clear preference in the purchase of local products, support could be provided while the industry was established."

--Software development: Australian Government and companies have a long record of writing their own software--"This has denied the development of an independent software industry." In contrast, he says, Canadian Government departments that wish to develop computer projects themselves must make a case for not contracting the work out to consultants and service bureaux.

Management and marketing assistance: A State Government agency could help new business activities in high technology to reach self-sufficiency.

--Education and development centres: "We should establish a number of microelectronic design centres, equipped with development systems, literature and consultants to provide the basis for companies to develop their own products. These centres could be self-funding."

-- Cooperative programs: He says there should be such programs between Government and industry to encourage local development of high technology industry.

Professor Gledhill does not believe that Australia should enter the mainframe computer market-"That opportunity has passed."

"However, by judicious selection of the correct entry point, we could build up a viable minicomputer industry."

In these days of advanced minicomputers, the vast majority of mainframe applications could be done with distributed minicomputers, he says.

The miniprocessor, he says, is ready to be exploited by an imaginative development program, and Australia could be a force in that development.

"Recent press reports have cited Government ministers as saying that the current mining boom will generate \$70,000 million within the next 15 years.

"It would seem reasonable to extract a one per cent levy (\$700 million) on that figure to provide adequate funding for a high technology industry that will be our life-blood when the quarry runs out," he concludes.

#### GOVERNMENT FAVORS THIRD TV NETWORK IN EAST

Canberra THE AUSTRALIAN in English 5 Dec 80 p 9

|Text| The Federal Government favors the operation of a third major commercial television network in the eastern States.

The Communications Minister, Mr Sinclair, indicated this in Parliament yesterday. He also said the Government was examining the controversial Broadcasting and Television Act to see if changes were needed "to ensure the maintenance of reasonable competition," in the commercial television industry.

In answer to a question on the future of the Act, Mr Sinclair said there should be an examination of television networking.

It was something, he said, which had been only "minimally examined in the Australian context."

Mr Sinclair went on to say the Government was "concerned that there should be three major networks operating, if at all possible, in the Brisbane, Sydney, Melbourne, Adelaide context. It's equally aware and concerned that there should be protection of the regional stations to ensure that their operations function effectively and viably."

The Australian Broadcasting Tribunal recently refused an application by the News Group of companies to control a Sydney-Helbourne 10 Network. The Tribunal refused the application on public interest grounds after a six-month inquiry into the News Group application for joint ownership of ATV-10, Helbourne. The group already controls Ten-10 Sydney.

Two major commercial television networks already operate in Australia, Mr Kerry Packer's Nine network and the Fairfax-dominated Seven network.

Hr Sinclair said the Tribunal's ATV-10 decision was one of two reasons the Government was looking at the Act.

"The other is inadvertent transgressions of the provisions of the Act as a result of stock exchange dealings with Brisbane's TVQ-0) when the Pioneer shares are registered.

The News group also fell foul of the ownership provisions during the ATV-10 inquiry.

The ALP alleged that News had 5 per cent interests, not only in Ten-10 and ATV-10, but also in TVQ-0 Brisbane through News/Ansett shares in Ampol, the major TVQ-0 shareholder.

The tribunal rejected the allegation after News offered to sell all its Ampol shares.

News has appealed to the Administrative Appeals Tribunal against the Broadcasting Tribunal's ATV-10 decision. Preliminary hearings before Mr Justice Davies will resume in Sydney on February 5.

Mr Sinclair was referring to a recently acquired holding by Pioneer Concrete in Ampol Petroleum, which could put the AMP insurance company in breach of ownership provisions in the Act through an AMP holding in Pioneer.

The ownership provisions stipulate that no one can hold an interest of more than 5 per cent in more than two television stations. AMP, chaired by Sir Vincent Fairfax of the Fairfax media group, already has two 5 per cent interests and would gain a third (in the takeover of the Ampol company).

#### METEOROLOGY BUREAU TO INSTALL COMPUTER SYSTEM

Canberra THE FINANCIAL AUSTRALIAN in English 6 Jan 81 p 6

[Text] The Bureau of Meteorology is to install a Tandem "Nonstop" computer system within the next month, as a prototype facility for its national Automated Regional Operations System (AROS).

During the development phase the system, supplied in Australia by MIS, will be installed at the bureau's head office in Melbourne and then moved to the Victorian regional office.

The initial investigations for AROS, which will provide a wide range of automated assistance to meteorologists and supporting staff in the bureau's regional office, began in late 1976.

The bureau said it was evident from the start that any such system would require extremely high-availability to satisfy its requirements.

The Tandem system was eventually selected on the basis of value for money and cost effectiveness.

According to the bureau, no other system could supply the high availability sought, without the need to expend considerable effort in developing special software to cater for hardware or software failures.

Additionally, the Tandem system used advanced software facilities including a relational database and a wide range of communications capabilities.

A member of the AROS development team said that the acquisition of the Tandem system represented a significant opportunity for data processing staff to use a multiprocessor system—a growing trend in the industry—and to become familiar with fault tolerant computing, while developing a major tool for the bureau as a whole.

THI FOOM SET TO LAUNCH NEW TV-BASED COMMUNICATIONS SYSTEM

Camberra IIII FINANCIAL AUSTRALIAN in English 26 Dec 80 p 9

[Article by Peter Terry: "Telecom Plans a Multi-Million Dollar TV Service"]

Test

TELECOM is preparing to invest millions of dollars in a new television-based communication likely to revolutionise the flow of information across Australia.

Already television manufacturers have been briefed on apecifications for the new color sets, and Melbourne and Sydney have been chosen for the launch in about 10 montha' time

Detailed proposals are now with the Minister for Commu-nications. Mr Sinclair and Telecom is hoping to receive the go-shead late next month

If the plans are accepted they could spark not only a new communications industry. but a potential bonanza (or television manufacturers who have watched sales stagnate since the initial boom days of color TV

Essentially the plan is to introduce a local version of Britain's "Prestel" - a computer-ised information service car-ried by telephone and fed into television sets.

At the press of a button. Prestel turns a television set into a two-way answering service that can provide aubscribers with instant information on anything from stock market prices, to what neats are available on the next flight to New York

Prestel will even allow the user to book one of those seats and pay for it by typing in a credit card number. The British system is spread-

ing throughout Europe and for the past few months a trial international system, spon-sored by the UK Post Office,

has been available to selected

Australian companies
In a separate move the Post
Office has decided to make the international system perma-nent in the new year, and Telecom is proposing that both the local and international services te made available through the same television receivers.

According to Telecom the local system will be aimed initially at the business market.

### HOMES

But the final plan is to have it used in as many homes aspossible

Figures provided by manu-facturers suggest that a Pres-tel keyboard and adapter for

existing television sets could be produced for about \$350 In mass production, the fig-ure could be cut to about \$200.

At the same time manufacturers are studying plans for building both Prestel-only sets, primarily for business users, and dual sets which will pick up both Prestel and normal television programs.

Telecom believes that when the first dual sets become available they will cost about \$200 more than conventional sets.

Telecom is still working out

charges for the service, but they are likely to be relatively

cheap.

Por information providers
(IPs) who provide in program
form basic data on such things
as stockmarket prices, the annual charge is likely to be
around \$8000.

On top of that, Telecom will probably charge IP around #

a page of information that can be accessed on a Prestel

In turn the IP can charge subscribers a fee every time they access the information and this is collected and passed on by Telecom as part of its normal telephone accounting service

Telecom will also make a amail charge of its own to subsort ora, but to encourage the domestic use of Prestel. It is looking at about le a minute outside business hours.

There is no obligation on IPs to charge subscribers anything at all for accessing their information, although if the

information, although if the information itself has value. may in the case of investment

advice charges could be high to Britain, the Birmingham Post is using Prestel to launch what it decribes as the world's first electronic newspaper

Telecom is expecting similar operations to be mounted

At the same time Telecom plans to allow Prestel to be used as a private communica-tion service between companies using confidential access

#### LOCAL COMPUTER SYSTEM HAS WIDE CABLE TV APPLICATION

Perth THE WEST AUSTRALIAN in English 25 Nov 80 p 11

[Text] A new WA-backed research group may have backed a winning--and lucrative--project first up.

The Systems Research Institute of Australia is expecting big things from a computer security system which may have a significant impact in the United States, particularly on subscriber-pay cable television transmissions.

The assistant director of the institute, Hr W. Healy, said yesterday that of the six projects with which the institute was now involved, the system had the biggest implications for Australia.

If negotiations for the use of the system--involving the encryption technique-were successful in the U.S. a lot of the equipment necessary could be manufactured in Perth.

The technique could be a multi-million dollar enterprise. It would work by scrambling the picture transmission from a cable television station and descrambling in the receiving set the programme paid for by the subscriber.

Hr Healy said that the technique could also be applied to defence, banking and law-enforcement communications. The scramble system ensured confidentiality of information transmitted on line or by satellite.

The encryption technique has been developed by a Perth computer expert, Mr Monte Sala (53), with help from Professor John Ross, of the University of WA.

A company, Ran Data--of which Mr Sala and the institute are partners--has been formed to develop the technique.

Mr Sala said that the encryption system was unique. Work on its development had begun in March in Perth.

There had already been talks in America of its use on cable television and negotiations would continue early next year.

Hr Healy said that the institute, which was based in Perth, was also involved with other projects which could be applied world-wide.

These included a workshop scheduling system which could be used to allocate manpower and a radiology reporting system.

The institute was now working on marketing aspects of the workshop scheduling system, which had been developed by Ht Isa Hines.

Mr Healy said that the institute was jointly funded by the WA Government and the Sperry Univac Computer Systems Corporation of the U.S. The Government is paying the running costs of the institute for the first three years.

It was a non-profit organisation. Any profits from its projects were put back into other computer-related projects, mainly in the "software" field.

The institute's first board of directors was announced last week.

It is Mr D. Moore (WA Treasury Department); Mr P. Travers (general manager of Sperry Univac); Mr J. Parrell (executive director of the institute); Mr N. Pussell (executive director of Mt Isa Mines Holdings of Brisbane); Mr A. McLeod, (deputy general manager of the energy division of CSR); Mr K. Denham (a member of the board of directors of Central Norseman Gold of Perth) and Mr Y. Goldbert (a member of the board of directors of Strata Oil).

#### OPPOSITION VOICED TO PROPOSED CHANGES IN BROADCAST ACT

#### Senators' Views

Sydney THE SYDNEY MORNING HERALD in English 28 Nov 80 p 13

[Article by Dennis Shanahan: "Broadcasting Act Changes Opposed by Govt Senators"]

[Text] Any Federal Government attempt to weaken the powers of the Australian Broadcasting Tribunal would be vigorously opposed, a Liberal Senator said yesterday.

Senator Chris Puplick (Lib, NSW) said "a number of Government senators" would be opposed to any such move.

Senator Publick made the comments during Question Time in the Senate yesterday.

The Minister for Communications, Mr Sinclair, will make a submission to Cabinet next week on amendments to the Broadcasting and Television Act.

As revealed in the HERALD on Wednesday some of the options in the submission would lessen the powers of the Australian Broadcasting Tribunal.

If the option were accepted, the power to grant television licences would be taken from the independent tribunal and revert to the Minister for Communications.

Another option in the submission would remove the powers of the tribunal related to the public interest in decisions on takeovers.

The tribunal used its public interest powers to block Mr Rupert Murdoch's News group takeover of the Melbourne station ATV-10.

Yesterday in the Senate Senator Publick said Mr Murdoch had been pressing for changes to the Act. "A number of Government Senators would be vigorously opposed to such changes," he said.

The Opposition spokesman on communications, Senator Button, said the Government was looking at a "number of key sections of the Act."

He said the removal of the sections would:

Enable large media groups in the eastern States to control several stations through networks;

Prevent the broadcasting tribunal from revoking or suspending licences;

Extend the term of licences from three to five years and;

End inquiries by the tribunal into transfers in ownership or shares in licencee companies.

Senator Button said the aim of the amendments was to "emasculate" the Act before the hearing of an appeal by Mr Murdoch against the tribunal's refusal to allow Mr Murdoch continued control of ATV-10.

#### Rural TV Objections

Melbourne THE AGE in English 29 Nov 80 p 16

[Article by Lorenzo Boccabella: "Rural TV Wary of Law Change"]

[Text] 'Canberra.--The operators of regional television stations in Australia have telexed all Cabinet Ministers, calling for the postponement of any changes to broadcasting legislation.

This week THE AGE reported that the new Minister for Communications, Mr Sinclair, had prepared a submission for Cabinet on extensive changes to the Broadcasting and Television Act.

The telex suggested that Mr Sinclair was receiving advice from only a selection of the TV industry. This was an obvious reference to the main media groups like Mr Rupert Murdoch's News group and Mr Kerry Packer's Consolidated Press.

The changes Mr Sinclair proposes include an emasculation of the public interest power of the Australian Broadcasting Tribunal which last September blocked the News group buy into Melbourne's ATV-10. A watering down of the public interest power could mean News would retain control of ATV-10.

In the telex the Cabinet Ministers were told that the regional TV stations were "deeply disturbed" about suggestions that far reaching changes are proposed.

The regional TV stations, through their group, Regional Television Stations Australia, said they wanted deep and proper research and full discussion embracing all broadcasters before any changes to legislation were made.

#### CABLE TV 'NO LONGER A CERTAINTY' IN NATION

Sydney THE SYDNEY MORNING HERALD in English 6 Dec 80 p 2

Article by Dennis Shanahan: "Govt Changes Rules on Cable TV Inquiry"]

[Text] Canberra--The early introduction of cable television into Australia is no longer a certainty.

The Federal Government announced yesterday a shift in broadcasting policy by declaring cable television was "not a foregone conclusion."

The announcement cuts directly across previous Government policy which was committed to the introduction of cable television. An inquiry into how and when it should be introduced was set up in July.

The terms of reference of the inquiry have now been changed to determine if cable television should be introduced at all.

The Minister for Communications, Mr Sinclair, has also virtually ruled out the introduction of "radiated" subscription services, which are broadcast scrambled and decoded in the subscriber's set.

In July Mr Tony Staley, as Minister for Post and Telecommunications, paved the way for cable television and said "the Government has now agreed to support the diversity of choice which would result from cable and subscription television services."

He said the Australian Broadcasting Tribunal would inquire into the best methods of introducing the services.

Mr Staley said the introduction of cable as an additional service industry in Australia could create "thousands of new jobs."

The Government was attacked at the time for announcing a policy decision and then holding a public inquiry into the best means of implementing the decision.

Last night Mr Sinclair said the cable inquiry would investigate the social, economic, technical and other implications of the introduction of cable television.

The inquiry would not investigate radiated subscription services except to the extent that their introduction would affect cable.

The Federation of Australia Commercial Television Stations has asked Mr Sinclair to consider whether cable should be introduced at all.

It has been said that it would cost \$200 to \$300 million over several years to wire Sydney for cable television.

Last night the federal director of FACTS, Mr J. Malone, said the federation welcomed Mr Sinclair's Announcement.

#### GOVERNMENT OPENS INQUIRY INTO CABLE TV SERVICE

Helbourne THE AGE in English 29 Nov 80 p 1

[Article by Lorenzo Boccabella]

[Text] Canberra. -- The Federal Government may reverse its decision to introduce cable television in Australia.

The new Minister for Communications, Mr Sinclair, has decided to broaden the terms of reference of an inquiry into cable TV to include a study on whether the service ought to go ahead at all.

On 9 July this year, the then Minister for Post and Telecommunications, Mr Staley, announced that Cabinet had decided that cable and another form of television, subscription TV, would definitely go ahead.

Hr Staley ordered the Australian Broadcasting Tribunal to conduct an inquiry into "how" not "if" the new services ought to be introduced.

Hr Sinclair's move follows pressure from the commercial television industry.

Cable TV is a system where a television set in a viewer's home is directly connected to a central programme distribution point. It is like receiving TV through a telephone cable, rather than through an aerial.

Viewers wanting the service would pay for installation and programmes. In the United States cable TV provides up to 20 separate channels with programmes drawn from recent release movies, sports events, concerts, educational and other specialist material.

The decision to extend the terms of reference of the inquiry will at least set back the introduction of cable TV in Australia, as there will now be a forum to debate the need for it.

The Federation of Australian Commercial Television Stations (FACTS) has told Mr Sinclair in the past few weeks that it was concerned at the haste with which decisions such as cable TV introduction were made in the past.

The commercial industry fears that if cable TV is introduced too quickly, the local industry may not be equipped to take full advantage of the new market.

Regional commercial TV companies are concerned that country TV stations could be threatened by a cable service that could take a big slice of the viewing audience.

The combined lobby of the public interest groups and the regional broadcasters means cable TV could be delayed for more than a decade.

The decision by Mr Sinclair to extend the terms of reference of the inquiry is part of a whole review the new Minister is undertaking of the administration and policy of his department.

The present deadline for submissions to the cable TV inquiry is 14 December. In a recent comment on ABC radio the Broadcasting Tribunal chairman, Mr David Jones, said he favored a diversity of ownership in cable TV, away from the existing major media groups.

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#### GEELONG TRANSMITTER UPS POWER TO 5000 WATTS

Melbourne THE AGE (GREEN GUIDE) in English 4 Dec 80 p 10

[Text] Radio 3GL Geelong celebrated its 50th anniversary this week with a massive increase in power and an improved signal.

The station, which began broadcasting on 50 watts on 3 December, 1930, boosted its power from 2000 to 5000 watts with the introduction of a new, two-mast directional transmission station at Leopold.

Technically, 3GL is now on an equal power base with Melbourne's seven other commercial stations.

According to a spokesman for 3GL, the station's management had been concerned for some time that 3MP, on the opposite side of the bay, was interfering with GL's signal in some areas through the magnitude of its power output.

The spokesman said that since the move from 1350 to 1341, in conjunction with increased power output, station engineers had reported stronger sound with more detail.

Installation of the new transmitting facility was achieved just in time for the jubilee celebrations yesterday, according to 3GL's chief engineer Hr John McConnell.

He said the engineering team, faced with bare paddocks, built towers and earth mats, tuned the aerial equipment and switched on in 38 days, creating what is believed to be an Australian record.

3GL serves 200,000 people in Geelong and its regions with popular music and news, and involves itself in local issues and events.

Station Manager, Mr Terry Tayler, said the new facilities would enable 3GL to increase its audience across the bay, in the Western District and the growing western suburbs.

The station also has plans to increase its coming holiday audience to 400,000 with programming boosted to include regular beach discos, a beach girl contest, bay and ocean surf reports from air and watercraft as well as regular weather and traffic reports. 3GL, which claims to have pioneered many broadcasting developments, especially in the area of sports coverage, also gave a start to many well-known radio and television personalities. Among them are Brian Maylor, the late Bill Acfield and Bill Collins.

#### BRIEFS

TV IN REMOTE AREAS--National (ABC) television translators have been established at Derby, Wyndham, Kununurra, Halls Creek and Marble Bar. Services through these translators began yesterday under the Remote Area Television Programme. These translators will transmit Perth ABC programmes via the Intelsat IV satellite. Engineering test transmissions of programmes have been radiated from the translators for some weeks. By the end of the year, 22 communities would be receiving ABC television services under the Remote Area Television Programme, Senator Andrew Thomas said this week. [Text] [Perth THE WEST AUSTRALIAN (NEWS OF THE NORTH) in English 23 Dec 80 p 3]

#### BRIEFS

CHITTAGONG TELEPHONE PLANS--Chittagong, Dec. 19:--The Telegraph and Telephone Board worked out a Taka five crore scheme to increase the capacity of Chittagong Central Telephone exchange from present 10 thousand telephone lines to 15 thousand lines. According to Chittagong Telecommunication Region office, the works under the scheme are scheduled to start shortly. The T and T Board expect to complete the works of the scheme within one year. The T and T Board will procure the raw material for the scheme from West Germany. Then the Tongi Telephone factory will use this raw material to manufacture the equipment for the development scheme of Chittagong central exchange. With these new five thousand telephone lines of Chittagong Central Exchange, the capacity of three exchanges in Chittagong city will raise to 22 thousand telephone lines from present 17 thousand lines. The other two exchanges are Agrabad Telephone Exchange and Baizid Bostami Exchange with the capacity of five thousand lines and two thousand lines respectively. [Text] [Dacca THE BANGLADESH OBSERVER in English 21 Dec 80 p 7]

#### COMMUNICATIONS MINISTRY MAKES PLAN PROPOSALS

Madras THE HINDU in English 5 Jan 81 p 7

[Text] New Delhi, Jan. 4.

The Union Ministry of Communications has proposed an outlay of Rs. 2,950 crores for telecommunications for the 1980-85 Sixth Plan as against Rs. 1,848 crores in the 1978-83 draft plan.

Out of the proposed outlay of Rs. 2,950 crores, Rs. 367 crores will be in foreign exchange. The Ministry is hopeful of securing the Planning Commission's approval of its Sixth Plan for telecommunications.

The Ministry has laid down the following targets for achievement during 1980-85, the figures in the brackets indicating the existing capabilities: direct exchange lines, 34.14 lakhs (20.14 lakh lines), telephone exchanges, 10930 (7,430), trunk automatic exchanges 58 (40), telex changes, 236 (136), long distance public telephones 33,830 (13,830), telegraph offices, 44,457 (24,457), coaxial cables, 29,641 route kilometres (16,641), microwave systems, 33,545 route km., (16,545), satellite earth stations 26 (nil).

The proposed outlay of Rs. 2,950 crores will provide Rs. 1,470 crores for metropolitan and other urban areas, Rs. 1,293 crores for semi-urban areas and Rs. 187 crores for tribal, hilly, backward and scheduled areas.

A noteworthy feature of the Sixth Plan outlays is that the generation of internal resources anticipated by the depertment is to be Rs. 3325 crores which is higher than the proposed Rs. 2,950 crores. [as published]

The Ministry has taken care to see that the financial viability of its Plan is established, from the fact that all development expenditure will be met from internal resources generated by the P and T. The Plan outlays will not need any budgetary support except for the foreign exchange component.

The gross internal resources estimated by the communications Ministry include the following components among others: balance in capital reserve fund, Rs. 132.47 crores, depreciation on historical costs, Rs. 506.37 crores, advance rentals under Own Your Telephone and other schemes, Rs. 165.50 crores, contribution towards capital expenditure from revenue, Rs. 511.77 crores.

The Ministry has already planned the following imports for the Sixth Plan period: (1) 1.34 lakh lines of crossbar switching equipment from Japan, (11) if possible, there will be a further import of 2.47 lakh lines of crossbar switching equipment from Japan, (111) 30,000 lines of stored programme control (SPEC) electronic exchanges, (iv) 62,500 lines of cabinet or containerised exchanges in the size range of 200 to 600 lines and (v) 80,000 lines of containerised exchanges in 2,000 to 4,000 lines capacity. Proposals for further imports are also being drawn up.

### TELEPHONE EQUIPMENT RENEWAL PLANNED AFTER 1985

Madras THE HINDU in English 6 Jan 81 p 7

[Text]

This is because of the extremely tented availability of switching optimizes from indigeness sources and the need to conserve fereign exchange. The built of the replacement programme is proposed to be taken up only during that its

A 10-year perspective plan drawn up by the Genemoniculum Ministry proposes complete automotivation of local exchanges by 1990. The motion programme drawn up for 1980-85 will cover only a few of the measured exchanges still functioning at Pondicherry, lengths and Agartula and of the larger exchanges of over 1500. Been connective as well as of the district handquarters leaves.

It has been decided to construct cable ducts in all large cities for the future laying of indephone cables. This will be however, a slow programme in view of the extensive construction works required on the runds and the largest time available for working on busy roads.

To mitigate some of the problems of entering cobies and the cables that are now being laid, it has been decided that all primary, necessary and junction cables in large cases having 10,000 or more times will be kept under gas pressure while the distribution cables will be of the laify-filled type.

The Ministry has an ambitious programme of stopping up the equipped inter capacity by as much as 22 500 lines during the 1980-85 Plan period This is a major step considering that the total equipped capacity at the end of March 1980 was only 22,015, our 2.540 cm day

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#### BRIEFS

ANTARCTIC BASE SATELLITE LINK--Yamaguchi, 1 Feb (KYODO)--Showa Base, Japan's Antarctic observation base on Ongul Island, will be linked with Japan through maritime satellites (Marisats) as soon as permission to start the new service is granted by the Posts and Telecommunications Ministry. Test communication through use of the Marisats was conducted successfully last week between Showa Base and the Yamaguchi satellite station in Yamaguchi Prefecture of Kokusai Denshin Denwa Co (KDD). At present, communication with Showa Base is being made by radio. KDD officials said use of the Marisats enables voice communication and also reception and transmission of facsimile messages. They said a ground station equipped with a parabola antenna 1.2 meter high and 1.2 meter in diameter has been built on Ongul Island. Tests between the stations in Yamaguchi and Ongul Island were conducted for 2 days from 29 January. [Text] [Tokyo KYODO in English O543 GMT 1 Feb 81 OW]

PROBLEMS WITH VIENTIANE RADIO BROADCAST SIGNAL DISCUSSED

Vientiane VIENTIANE HAI in Lao 25 Nov 80 p 2

[Article in "Conversations With the Editor" column]

[Text] [Question] First I want to thank the editor for answering previous questions when I sent in letters on the trade situation. Now I would like to inform our comrades of problems on the Vientiane Capital radio broadcast that I listen to each morning and evening. There are difficulties in the broadcast. At the time of the opening song or when the announcer talks there are disruptive noises, very loud, as if it were a car running. When the words of the speaker or the song begin, there is the sound of some machine coming over the air. All the comrades should try to correct this situation.

Thank you. Viang Kham 20 November 1980

[Answer] Comrade Viang Kham, Thank you for informing us that you listen to the broadcasts regularly. We praise our comrade for listening carefully. Criticism or praise is invited. We are always glad to hear of anything in which we are at fault, to find ways to correct the situation. In the work of the broadcast system or radio operation we have been very deficient. We still lack knowledge in many fields. Now we believe that we will learn and rectify each error, though we have not done as well as we ought. With regard to the sound that the comrade describes as increasing all the time, our technicians acknowledge that noise but they cannot correct it because the recorders are very old. That is what causes the noise. The unclear sound also comes from the recorders. Besides this, the method of transmitting does not guarantee 90 percent reception. When such is the case, there are disturbing noises and indistinct sound. Nevertheless, our mechanics are working to correct these defects. They will not let this continue. As we have said, we are still weak. We are short of equipment. So the work does not progress as we wish step by step in the right way. We think that one day in the future we can rectify this because we believe it 's our duty to find methods to correct not only these deficiencies but others as well. We still have methods of scheduling to achieve noise control which are not yet very effective. The weakness that remains must be corrected; we cannot neglect it. We must take one step forward at a time, dependent on the condition of the materiel and basic internal and external knowledge.

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ASIAN NEWS NETWORK MEETING—Kuala Lumpur is to host the inaugural meeting of the ASIAN NEWS NETWORK, ANN, aimed at speeding up the flow of Asian news within the region. Announcing this today, Deputy Minister of Information Dr Ling Liong Sik said that with the formation of ANN, Asia could be seen through Asian eyes. Dr Ling is chairman of the monitoring group of the ANN project. He told a news conference in Kuala Lumpur that for a long time Western news agencies had been monopolising Third World news. Asian events, he pointed out, were always seen through Western eyes. The meeting, to be hosted by the national news agency BERNAMA with UNESCO's assistance, would be held in June. Dr Ling said the monitoring group met recently in New Delhi and decided that the Organization of Asian News Agencies, OANA, could be used as the nucleus for ANN. In line with this, BERNAMA would also host the next OANA general assembly meeting in Kuala Lumpur. [Text] [BK280953 Kuala Lumpur International Service in English O830 GMT 28 Jan 81]

# NATIONAL POSTS, TELECOMMUNICATION HEETING CLOSES

OW282201 Beijing XINHUA Domestic Service in Chinese 1445 GMT 28 Jan 81

[Text] Beijing, 28 Jan (XINHUA)—The objective of this year's postal and telecommunications work is to make further readjustments in the postal and telecommunications system with emphasis on strengthening communications.

The national conference of post and telecommunications administration bureau directors closed on 26 January. The conference summed up the achievements made in the past 2 years by implementing the policy of readjustment as follows: The number of automatic telephone switchboards and long-distance telephone circuits in large and medium-sized cities throughout China increased respectively by 200,000 and 4,000 units; automatic and semiautomatic long-distance dialing telephones have been installed in 22 provincial capitals and cities; and large and medium-sized cities have constructed more than 130,000 square meters of new buildings for use in posts and telecommunications work. The growth of communication's capacity in the past 2 years has been the greatest over the years.

Meanwhile, services such as postal delivery of commodity parcels, selling of newspapers and journals, remittance and parcel delivery, circuit rentals, international communication and stamp collecting have been restored and expanded. New services have been started such as data communication, video recording communication, customers' telegraph, customers' radiophoto, international postal express and registered parcels. By expanding the field of service, increasing income and saving on expenditures, posts and telecommunications departments have improved their economic situation year after year. The favorable balance in 1980 basically returned to the average level during the 17 years before the "Great Cultural Revolution."

The conference maintained: During the decade of turmoil, postal and telecommunication work was seriously affected by the left deviationist thinking. The conference advanced the following opinion: In order to make further readjustments successfully, posts and telecommunications departments should concentrate the use of all capital construction funds on insuring the construction of key projects this year. Projects under construction should be sorted out and examined earnestly and in an all-round manner. Projects to be stopped or delayed should be decisively stopped or delayed in order to guarantee that projects badly needed for communication and production at present are completed and put into operation as soon as possible.

It is necessary to find every possible way to promote integration and make use of all available funds—local authorities' investments, collective funds of customers, funds for renewal and renovation of equipment, telephone installation fees and state investments—to speed up the installation of telephones in cities. It is necessary to open up more circuits, properly manage the international customers' telegraph network in China, strengthen the organization of network and circuits for international communication and raise the efficiency and improve the quality of international communication. In postal service and long-distance communication, it is necessary to vigorously promote integration, fully organize and utilize society's strength, expedite the growth of the communication capacity and provide better services.

The conference demanded that posts and telecommunications departments at all levels adhere to and carry forward the party's fine tradition in ideological and political work; rectify the trend of neglecting political work; conduct education in the party's line, principles and policies for workers in light of their ideological trends; and carry out education in adhering to the four basic principles to facilitate the smooth progress of readjustment.

SATELLITE STATION REBUILT--Guangzhou, 19 Jan (XINHUA)--Work to modernize a satellite observation station in Guangzhou, south China, has in the main been completed. Located in the northeast suburbs of Guangzhou City, the station was built in 1958 with simple equipment to observe the first man-made satellite. Under the Chinese Academy of Sciences, the station has been expanded since 1975 by the installation of Chinese-made equipment, including an optical print theodolite to determine the position of satellites, a radio double-frequency doppler receiver for measuring satellite velocity, a satellite laser ranging system and an atomic clock room. [Text] [OW190719 Beijing XINHUA in English 0711 GMT 19 Jan 81]

#### TEN-YEAR TELECOPOUNICATION PLAN ESTABLISHED

OW261525 Taipei CNA in English 1426 CMT 26 Jan 81

[Text] Taipei, Jan 26 (CNA) -- In line with the government policy to expand the Republic of China's substantive relations with foreign countries, the Directorate General of Telecommunications [DGT] has mapped out a 10-year plan to add nearly 2,000 more international lines connecting Taiwan with the rest of the world.

Based on a DGT estimate, the nation's international telecommunication business is increasing at an annual rate of 14 percent, meaning that by 1989 the present number of international channels will be more than doubled.

DGT now operates a total of 507 international telephone circuits, 466 international telex channels, and 24 direct telegraphic circuits. All told, there are 997 lines covering a major part of the world.

According to DGT's 10-year plan ending 1989, the Republic of China can by then directly telecommunicate with almost every corner of the world, with an expected total number of 2,895 international lines.

The projected 1989 figures will include 1,430 telex channels, 1,367 telephone circuits, and 26 telegraphic circuits, making the Republic of China one of the world's busiest telecommunication terminals.

A DGT spokesman said the nation's telecommunications growth is attributed greatly to the increasing demand of business and the industrial sector, reflecting the fast growing trade between the Republic of China and foreign countries.

In addition to expansion of telecommunication lines, DGT is also accelerating its transhorizon microwave and satellite communication radio services, the spokesman said.

Following the existing satellite communication service and links of transhorizon microwave systems with Hong Kong and the Philippines, DGT is constructing three submarine cable systems to diversify the nation's international communication network. The three submarine cable systems will carry 480 audio circuits with Okinawa, 480 with Luzon, and 640 with Guam.

COVERNMENT DEVELOPS SATELLITE PROGRAM -- Taipei, 28 Jan (CNA) -- The government has decided to develop this country's own space satellite program over the next ten years, a government source reported. The official noted that the nation will begin to promote a wide range of sophisticated scientific activities of a national defense character, including the launching of space satellites. He pointed out that in the initial stages the satellite project will be geared to communications and weather reporting. Later on, satellites for other purposes will be developed. As long ago as 1979, the Executive Yuan instructed the National Science Council to begin researching the launch phase of satellite development. A number of scientists, however, have urged the government to secure more technical expertise before it commits itself too absolutely to the project. Many local scientific authorities feel that placing satellites into space can have very practical benefits for the nation, including improved communications, more accurate weather reportage and forecasting, and exploration of natural resources. In addition, satellites will ultimately have importance to the advancement of national defense. [Text] [OW281231 Taipei CNA in English 0936 GMT 28 Jan 81]

## ESTABLISHMENT OF NEW TELEPHONE FACILITIES DESCRIBED

Budapest NEPSZAVA in Hungarian 23 Dec 80 p 5

[Article by Tamas Moldovan: "In Five Years 106,000 New Telephones Were Installed"]

[Text] Rapid Growth--Hobile Switching Centers--Hicrowave Links--The New All-Knowing Telex Center Has Been Completed

In the early 1970's barely 140,000 customers were waiting for their telephones to be installed, but in 1977 this number approached 260,000. This was in spite of the fact that the Postal Service was spending billions (of forints) for development, and the number of "talking places" [telephones] steadily increased. The telephone, however, is an indispensible tool of our modern life, thus it is understandable [why] more and more people are requesting its installation.

In the summer of 1977 the government addressed this issue in detail, and passed several measures in the interest of favorable changes. Among other things an investment contribution is being applied since 1 January 1978, whereby private individuals and enterprises pay much more than before to have new phones installed. In 3 years this measure resulted in an additional income of 1.3 billion forints, all of which was spent to expand the network.

In his Monday press conference Illes Toth, general manager of the Postal Service said that during the last 4) months they solved technical problems which were unique in their history. The capacity of the telephone switching centers was increased by 255,000 lines, but several tens of thousands of units were used to replace and improve the quality of old and obsolete equipment. A total of 106,000 new stations have been installed in 5 years, and 2 billion forints more than the amount originally planned were spent on improving communications. The record was reached this year: 53,500 phones were placed in operation. Among other things, the centers in midtown [Budapest], in Lagymanyos, in Terez and Ferenc [boroughs], in Ujpest, and in Lipot [borough] were enlarged. Favorable changes were also affected by new installations or reconstruction of the existing ones in Szeged, Debrecen, Gyor, Eger, Kazincbarcika, Tatabanya, Szekszard, Salgotarjan, Mosonmagyarovar, and Pecs.

Something that had not happened for a long time: in the Belvaros (midtown Budapest) area even the new applicants are receiving their telephones in just a few weeks. However, this does not mean that the problems have been completely eliminated. Changes had to be made, first of all, in the situation of the apartment house

complexes. In the interest of this, mobile switching centers are being used in 13 locations; each one enables 1,000 phones to be installed. The network of lines between centers also had to be expanded due to the increased capacity. If this had been solved by traditional methods, the 100 kilometers of Budapest's streets would have had to have been dug up and cables would be laid. Instead, PCM [Pulse Code Modulation] equipment was installed [in Hungary], second only to France. The center on Szechenyi Hill provides connection between Ujpest, Krisztina, Jozsef, and Ferenc [boroughs], and Lagymanyos. In fact, two mobile units have been purchased which immediately [can] take over the service on location if operating problems develop at any of the centers. The Postal Service's general manager said that for the coming years they consider improvement of the quality of service to be the most important thing.

On Monday afternoon Arpad Pullai, minister of transportation and postal affairs, dedicated the new electronic Telex and transmission network center in the Belvaros [Midtown Budapest]. It can be said about the equipment purchased for \$7 million that it really represents world level standards. If, for example, a ministry wants to send telexes to several of its enterprises, the machine encodes the instructions and the text will have to be fed in only once; it will automatically handle the entire job. Moreover, it can keep on calling the line if it is busy until the message is delivered, then report back to the sender that the message has been delivered. Presently we have international Telex connections with 56 countries, and [the postal service] wants to expand this service also. The memory unit can be programmed that among several telexes of an enterprise, which one should be notified at night or on days the enterprise is closed, if a telex arrives from somewhere.

## CONSTRUCTION OF NEW TELEVISION STATION UNDER WAY

Budapest NEPSZAVA in Hungarian 25 Dec 80 p 6

[Article by Tamas Moldovan: "The New TV Transmitter on Kekes [Hountain] Will Be Completed Next Year"]

[Text] Possibility of Three Dimensional TV Broadcasting Is Under Study-Stereo and UHF--Reconstruction on Lakinegy

The postal service's radio and television program broadcasting balance shows a favorable picture. During the last 5 years the main emphasis was on building standby stations [tartalekado], and in the areas of radio and television also the goal was first of all to improve quality.

In 1976 only about one-half of the country had satisfactory reception of Kossuth [radio station] broadcasts. Placing the 2,000 KW transmitter in Solt into operation caused definite changes. They can now not only provide perfect broadcasting and reception conditions for 97 percent of the country's area, but also there have been reports from London and even from more distant cities that the voice of our main radio station is excellent. But favorable changes have also been achieved on UHF. Kossuth broadcasts, for example, can be received on UHF by 80 percent of the country. The third program, the stereo broadcast, can be heard well [plainly] in 94 percent of the country. In more than half of the country reception of stereo broadcasts has also been solved.

The number of television subscribers is nearly 2.8 million. Construction of the main TV network was completed by 1975. The postal service's most important task in the last 5 years was to provide continuous broadcasting and eliminate the white spots [i.e., breaks in service; blackouts]. Today First Program broadcasts can be received in excellent quality in 91 percent of the country. Between 1975 and 1980 standby equipment was installed at all transmitters to affect immediate switchover in case operating problems occur.

The situation of the Second Program is far from so favorable. Because of this, high output transmitters were placed into operation in Budapest, on Kabhegy and in Szentes; with these, broadcast coverage by this program is insured for 54 percent of the country.

<sup>\*</sup>Translator's note: There is a mandatory license fee for TV sets in Hungary.

A few years ago it used to be noted in the program guide if a program item was broadcast in color. The situation has now reversed, and only the programs broadcast in black-and-white are so designated. Commercial sales indicate that the buyers purchase color sets, or sets built on the basis of the most modern module principle.

In the last 5 years 39 minitransmitters were put in operation to broadcast the First and Second Programs. These remote control units operating on incandescent lamp energy are assigned to serve smaller districts. In the next 5 years this program will be continued.

The new TV transmitter on Kekes will be completed next year, and for radio listeners the reconstruction on Lakihegy represents something new. With this latter, broadcasting the Petofi radio's program will in part be solved; moreover, the establishment of a new, 500 kilowatt transmitter is also planned for Marcali to broadcast this program.

The postal service is also involved in applying the most modern technology. They are now experimenting with UHF equipment which, with the use of a minimeceiver, will "inform" its owner—no matter where the owner is—, that he [she] is being sought, and what number to call. An order has already been placed for manufacturing the first 100 of these sets, and for the time being the development of a 10,000 station network is planned for the Budapest region. Experiments have also begun for the special TV-newspaper. Educational programs, traffic information, economic news could be "received" on regular sets. Based on international experience they are also investigating the possibility of three-dimensional TV broadcasting.

8584

## POSTAL OFFICIALS INTERVIEWED ON SITUATION OF TELEPHONE NETWORK

Budapest HETI VILAGGAZDASAG in Hungarian No 46, 15 Nov 80 pp 30-31

[Interview by Agnes Tibor, correspondent of the HVG, with Janos Pammer and Karoly Koperniczky, officials of the Postal Service: "Our Telephone Network Is Short of 16 Billion Forints Today"]

[Text] The more natural we find that we can use the telephone for much of our official and private business, the more annoyed we become when this marvelous invention of communication breaks down from time to time. And, unfortunately, this still happens quite frequently. Why is the Hungarian telephone system so ill?, we asked János Pammer (57), director of the Telecommunication Department of the Postal Service's Directorate General and chief postal technology adviser, and Károly Koperniczky, director of the Long-Range Development Department of the Postal Service's Directorate General and postal technology adviser.

[Question] When speaking of our telephone system, people talk of annoyances before they talk of a blessing. There are those who are waiting in vain for phone installation and those who are waiting for a connection; often it is either a wrong connection or a mistake in the bill.

[K.K.] Unfortunately, the development of our telephone network fell victim to the central developmental policies of the 1950s and 1960s, just like the other infrastructual investment projects did. In countries which are as developed as we are, generally 2 percent of the total investments are allocated for the development of communications; we never receive this much. Often not even half of that. Because of the reasons mentioned, we are today short of almost 16 billion forints. Not having other alternatives, we built more and more exchanges into the existing weak network. The principles of the development changed only in the Fourth Five-Year Plan; since then, reconstruction has been the primary task so that at least those who have a telephone can use it. In my estimate, we need 10 to 15 years to catch up, but we might need at least 40 years to reach the supply which is considered optimal today, i.e., 730 telephones per 1,000 peop

[Question] In 1978, there were 103 stations per 1,000 people in Hungary. Czechoslovakia has almost twice as many, and Austria three times as many. Our place on the world list is not very good.

[K.K.] I have no consolation; in fact, the situation is going to worsen until 1985, since we can increase the number of stations only by 1.6 percent a year. Thus, in all probability, we will be among the last in Europe in 5 years.

[Question] The Swedish Ericsson firm's cross-bar telephone central exchange appeared in the early 1950s, we bought their license in 1968, and it was only in 1974 when the first Hungarian-made cross-bar telephone central exchange was built. Fifteen percent of the still operating rotary equipment is beginning to age.

- [J.P.] There is no reason yet for the burial of the rotary; there are quite a few still operating in France, and the Brzsebet central exchange, built in 1938, is still dependable. The rotary central exchange is like a work horse: if you put more burden on it, it will still go, only slower. The cross-bar, on the other hand, is similar to the English thoroughbred which does not tolerate a jockey who weighs more than 110 pounds.
- [K.K.] Incidentally, the Postal Service was the first to purchase an Ericsson central exchange, and it also urged for domestic manufacture. Do not ask us why this required 6 years.

[Question] When development contribution was introduced on 1 January 1978 (individuals must now pay an installation fee of 4,000 forints for a party line, 6,000 forints for a single line; the business fees are 20,000 and 30,000 forints, respectively), it was generally thought that there would be more money for installing new stations.

- [J.P.] This is the way it was. It was this contribution, among other things, which made it possible the installation of 45,000 more stations than planned for the present 5-year plan.
- [K.K.] It costs the Postal Service 60,000 forints for each new main station, and if we include the cost of reconstruction for each station as well, then this sum will reach 90,000 forints during the 6th 5-year plan. In my opinion, however, this exceeds the actual costs by 140 to 250 percent. For example, we can purchase from the Beloiannisz Telecommunication Factory the same ready-to-install cross-bar main line for 15 to 16,000 forints which the Ericsson firm sells for 150 dollars in western Europe.

[Question] 70 percent of Hungary's telephone stations belong to businesses. This proportion is 62.2 percent in Czechoslovakia, and 36.8 percent in Italy. When can we afford to reverse this proportion?

- [K.K.] At the beginning of network expansion, business stations always have a priority, and the ratio begins to change only when there are at least 150 telephone sets per 1,000 people. A reverse trend in our country, at the present pace of development, cannot be achieved before the year 2000.
- [J.P.] It is a bigger problem that, precisely because of this kind of distribution, 53 percent of all calls are handled by the main lines of the sub-exchanges which constitute II percent of the main lines. At the same time, only 17 percent of the calls go through the main business lines (20 percent), and only 24 percent through the main private lines (67 percent).

[Question] Provided that the person called is reached.

[J.P.] Discounting those cases where the calling party is not at his place, we have a 30 percent probability for making the connection; the world average is about 70 percent.

[Question] Many people do not even reach a wrong connection, especially if they call from a public phone. It is almost a cliché, we hear it so many times: it is well if 5 of every 10 public pay phones are not out of order.

[J.P.] It is important to improve the public network; Budapest has more than 7,000 public phones, and in the rest of the country, more than 8,000 are in operation. There are already long-distance phones that operate with 2, 5 and 10 forint coins. Within a very short time, 180 automatic phones will be installed in Budapest which will be able to handle international long-distance calls. Regarding the public pay phones that are operating today, there were some problems in their manufacture. Although the Precision Mechanics Enterprise of Szekesfehérvár agreed to manufacture them, it merged with the Videoton before it could begin. Then the Mechanics Enterprise took over the manufacture, but at the time it did not have the necessary experience. Incidentally, there is a lot of vandalism (this is also a cliche) and the punishment is not strict enough.

(Question) People say that if the telephone situation in Budapest is bad, then that in the rest of the country is catastrophic. According to the 1978 statistics, there are 296 phones per 1,000 people in Budapest, 110 in Debrecen, and only 32 in the villages.

[J.P.] Our plan is to disregard municipal boundaries and to connect 3 or 4 towns and villages to a single (for the time being, not necessarily automatic) system with 24-hour service. The implementation of this will begin in the 6th 5-year plan and will end by 1995. By that time the hand-operated lines will also be gradually automatized.

[Question] What and who determines, and on what basis, who will get a telephone set and when? Is there any kind of a system as in apartment distribution?

[J.P.] In principle, the order is generally this: first come the health institutions, then the educational institutions, national offices and the armed forces, then the institutions with megye and city authority and other businesses. This does not mean, however, that all of the above have an absolute priority. Among private individuals, those have a priority who work in the health services and who have 3 or more children, followed by those who absolutely need a telephone for their work. All of this depends, of course, on whether the central exchange has any available station capacity, and on the area's network.

(Question) Many people complain that while they are waiting for a phone in an endless line, there are numerous non-party lines in operation.

[J.P.] The basic requirement for party lines is the so-called field of numbers for party lines, without which main lines (however large their number may be) cannot be converted to party lines.

[Question] As far as I know, our telephone exchanges "handle" more than 30,000 lines. In other countries, many housing complexes have exchanges nearby which can handle 10-15,000 lines. These are allegedly more economical and since they do not use the central exchange, less cable is needed for them.

[K.K.] Only 7 of Budapest's 22 main telephone exchanges can handle more than 30,000 lines. Because of the rotary system, larger exchanges had to be built at the beginning, within Budapest's city limits, of course. According to the long-range network plan, Budapest will have 33 main exchanges, 13 of which will be decentralized with 15-20,000 lines. Decentralization means that the central exchange's heart will be located in a service building, and the individual parts will be in containers and in PAM-centrals.

[J.P.] Even if we do not have the possibility in the next 5-year plan for quantitative expansion, we would like to improve the quality of service. For example, we would like to connect in the coming years Debrecan, Szeged, Pécs and Miskolc to the international long-distance network.

# COMMUNICATIONS MINISTRY BUDGET ANNOUNCED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 18 Dec 80 p 33

[Text] This week the Ministry of Communications will discuss its budget for 1981 with SEPLAN [Planning Secretariat], a budget which foresees expenditures of about 130 billion cruzeiros on programs already underway and the application of eight billion cruzeiros in contracting for new services. The secretary general of the ministry, Romulo Villar Furtado, said yesterday that the program presented to SEPLAN envisions the contracting of 380,000 new telephone terminals by TELEBRAS [Brazilian Telecommunications, Inc] next year, maintaining a programing similar to that accomplished this year.

Villar Furtado announced that the Ministry of Communications and the SEPLAN are studying a new formula for readjusting telecommunications service rates, which rose 25 percent as of 1 January. The idea advocated by the Ministry is one of quarterly adjustments of rates, making it possible for the sector to fix increases in rates to prevent an out-of-phase condition between the rates charged and the rate of inflation registered.

The secretary said the budget presented to SEPLAN does not foresee the obtaining of new foreign resources by the sector and all necessary expenditures shall be made with money derived from operating revenues and from the share of the National Telecommunications Fund allocated to the sector. The forecast is that the telecommunications sector will be given 29 billion cruzeiros from the Fund next year from total collections estimated at 40 billion cruzeiros. Foreign resources to be used in 1981 were obtained this year and are deposited in the Central Bank. Villar Furtado also said that the operational revenues of the telecommunications sector for 1981 were calculated at 210 billion cruzeiros.

## Satellite

A small amount of money will be allocated by the budget to the Brazilian domestic satellite project, declared the secretary, because the government has not yet decided whether it will be developed next year. If there were to be a decision in that respect within the first half of the year, the final plan will be prepared and an international request for bids for its installation will be made. At this rate, the satellite would be in operation by the end of 1985.

# Rates

Also on the new ideas being studied for the rates to be charged in telecommunications, Romulo Villar Furtado said that measured telephone service will be extended to the entire country, the inclusion of Rio de Janeiro in March and Sao Paulo in September, being foreseen. "It is not fair," he declared, "that people who use the telephone very little should pay the same rate as other more frequent users."

8908

# SERPRO ACQUIRES FIVE COBRA 530 MINICOMPUTERS

Brasilia CORREIO BRAZILIENSE in Portuguese 6 Jan 81 p 9

[Text] The Pederal Data Processing Service [SERPRO] begins 1981 with the introduction of five COBRA [Brazilian Computers and Systems, Inc] 530 minicomputers into its equipment inventory. These are the first data processing units entirely designed and manufactured nationally. Making this announcement, the president of the company, Jose Dion de Helo Teles, said the purchase of that group is a concrete proof of the policy of SERPRO to give prestige to the national data processing industry. With the five new COBRA 530's, SERPRO now has 10 national minicomputers.

Jose Dion said the new COBRA model is the final result of the work begun in the Rio PUC [Pontifical Catholic University] and Sao Paulo University with Project G-10, subsequently incorporated by the company. With it, the computer acquired the flexibility and commercial characteristics required for its entry into the market under competitive conditions and its appearance took place last November.

#### Field of Action

The president of SERPRO pointed out that the COBRA 530 is very versatile, making possible the interconnection of various peripheral pieces of equipment. Its memory capacity varies between 128 and 512 kilobytes and it could even reach two megabytes, the limit of medium-size computers.

The field of application of the COBRA 530 covers an area ranging from administrative and financial to industrial and scientific activities. The purchase of this minicomposite all provide SERPRO with equipment which will be very useful in the wolf ampany will initiate at the beginning of the year, primarily in the fiel of distributed processing. With this, said Jose Dio, we shall be guaranteeing the integration of the services provided by SERPRO at a national level through a solid, swift teleprocessing network.

COLOR TV SCHEDULE -- Colour television transmission is to be introduced by the Jamaica Broadcasting Corporation, beginning next year. THE GLEANER understands that preliminary work is now being undertaken by the new JBC Board, aimed at working out the details for the introduction of full colour to the national television station. However, when contacted by THE GLEANER the Chairman of the JBC Board, Mr. Pat Rousseau, declined to comment on the new development. It is understood that the JBC now has the transmitter facilities to go to full colour transmission and efforts are to be made shortly to acquire the in-station equipment that is needed to start these transmissions. It is further understood that the introduction of colour television transmissions would not mean that the owners of black and white receivers would have to change their sets to enjoy the new programming, but will, for a sum of \$20 to \$30, be able to convert their sets to colour. The conversion of all existing black and white sets is expected to cost about \$2 million, but it is not yet known whether the owners of the sets would have to meet the full cost. It is expected that along with the colour transmission will go a satellite link-up, which will enable Jamaicans to enjoy a variety of internationally televised programs. [Text] [Kingston THE DAILY GLEANER in English 24 Dec 80 p 1]

C80: 5500

# NEW TELCO EQUIPMENT WILL PROVIDE FOR 13,000 LINES

# Port-of-Spain TRINIDAD GUARDIAN in English 31 Dec 80 p 4

Most

THE LATEST equipment at the Telephone Com-pany's Nelson Exchange in Port-of-Spain capable of providing 13,900 lines will go not service within the next

two months

The new ND — 20 Tandem
and two ND — 20 local electronic exchanges at Nelson
are in the final stages of
testing and should become
operational within two
months

months
Mr Rowland Parris, Public Relations Manager, explained that taking delivery of an installed exchange is a complicated process.
The ND 30 which was de-

signed, supplied and in-stalled by Nippon Electric of Japan has been under that for the past four

months.

He said that it is a highly computerised and sophisticated piece of equipment "and as different levels of operation and different sections are put through their

faces, necessary correc-cions are made."

He explained that the process was made slightly longer because translation of the complex Japanese documentation required for

system operation and main-tenance was found to need extensive correction and re-vision each time equipment modifications were made. According to Mr. Parris the first portion of the sys-tem to be put into service this mouth on a full traffic

month on a full traffic basis to the new Tandem re-juired for ewitching calls selves the existing and sew exchanges. Adjustments are being nade to meet the various equirements as the test-ing process continues, he

Arter successful testing subscribers on the present main with numbers begin-ning (&2-3) and Nelson (&2-5) will be connected to the new exchanges and other numbers will follow.

According to the comconnections will be possible not only within the City but throughout Trinidad and Tobago and the world

The system of electronic exchanges linked by microwave connections will be estended to several additional areas in South and Central Trinidad, Tobago and as 
far east as Mayaro.

REVIEW OF RADIO, TV, PRESS INFORMATION SOURCES

Nassau THE TRIBUNE in English 22 Dec 80 p 5

[Article by John Houseman]

[Text]

GRAND TURK, Turks and Caicos, Dec 19 (CANA) - A must flurket in a mini state that's how it seems with a range of new systems, limited channels and widening information flows in the Turks and Caicos Islands.

Perhaps this is not unrelated to the new atmosphere of euphoric confidence which has followed the Novamber 4 general elections when the conservative Progressive National Party (PNP) under Norman Saunders gained 8-3 majority in the Legislature

The eight tiny islands, inhabited by 7,436 persons counted in 1980 census and located northeast of the Windward Passage in the Caribbean, now have a plethora of media.

The government's radio station based in the grounds of "Waterloo House" the Governor's residence on Grand Turk, puts out two-and-a-half kilowatts for 10 hours daily.

A tiny evangelical radio transmitter on Little Salt Cay exhorts the "faithful."

There is pay television on Grand Turk, the capital island, with 70 mibscribers, cable television on South Caicos with about 100 viewers, Coopers Broadcasting Company on the

island of Providenciales rety on their mini-earth station and a small erratic transmitter.

In all, it appears that there are about 500 TV sets in the islands showing material taped in the United States.

There is no legislation regulating broadcasting in this British colony, although this has been mouted for many years.

The 1980 census shows that there are 1,579 households (less than a "housand with electricity) and such other esoterica as 1,146 persons on the government payroll, 300 more women than men, 5,570 islanders claiming to be of "mixed race," and one to be Amerindian.

Other fascinating data culled elsewhere include the facts that there are over 1,600 vehicles licensed, and 600 Cable and Wireless telephone lines.

The country imports about 10 tonnes of chicken and other meat every week which shows that every man, woman and child consumes an average of just over three pounds (1.36 kilos) of foreign meat a week.

The statistics on the media show that apart from the "efratic Conch News" of eleven years standing, there have appeared on the scene some new publications. distributed both here and overseas.

The "Green Planh" is a tourism and development newsletter published by Barbara Currie Maguire, and the "Avant-Courier," an island investment and real estate advisory being put out by her husband Liam Maguire, the former Minister of Tourism and Development.

Add to these a Turks and Caicos "Chronicle" to be published quarterly by a Californian and a monthly, the "Current," published by Turks blander Blythe Duncanson resident in Miami.

In per-capita terms, the Turks and Calcos appears to be well endowed, but the fact is that the colony is still low on per acreage which is probably a better statistical base.

Prior to the November elections, the islands were governed by the radical Peoples Democratic Hovement (PDM), but that party suffered a tragic blow last May when its leader and Chief Minister J.A.G.S. McCartney was killed in a plane crash in the United States. Saunders's victory has brought a resurgence of confidence among private business and foreign investors, it is reported.

RADIO RELAY STATION—Cairo, 1 Feb (MENA)—Mansur Hasan, minister of state for presidential affairs and for culture and information, has allocated 500,000 pounds as a first payment toward setting up a radio relay station in al-Sallum on Egypt's northwestern coast. In its Monday edition, AL-AHRAH says that this station aims at consolidating and diversifying the dissemination of media in Marsa Matruh Governorate and at preparing special programs dealing with the new life in the desert and the activities taking place there such as development, the green revolution, reconstruction, electricity and the new communities projects. [Text] [NC012216 Cairo MENA in Arabic 2140 GMT 1 Feb 81]

PRESS AGENCY BECOMES OPERATIONAL--Gaborone, January 29 (TASS)--A national news agency-BOTSWANA PRESS AGENCY (BOPA) has gone into operation in Botswana. It will be the official government agency for the collection and distribution of information about the country. [Text] [LD301114 Moscow TASS in English 0616 GMT 30 Jan 81]

# HILLCOMMUNICATIONS FIFTH PLAN SAID ACHIEVED

Addis Ababa THE ETHIOPIAN HERALD in English 7 Jan 81 pp 1, 4

[] .....

ADDIS ABABA (EH) — The fifth five-year development plan of the Ethiopian Telecommunications Authority (ETA) has been successfully carried out resulting in the implementation of various important projects, it was revealed here yesterday.

Comrade Sahlu Berunoh, Exchange Branch Chief, informed our reporter on the achievements made in the area of telephone exchange installation during the plan period. He said under the fifth development programme, exchanges in Addis Ababa have been extended by the addition of \$,000 new lines thereby raising the total 39,000. The extension was carried out in the Arada exchange while extra equipments have been installed in exchanges in the capital city to lessen truffic congestion.

As part of the fifth development plan, the expacity of the Debre Zeit exchange has been raised from 400 to 800 lines while Akaki Bescha's manual exchange has been replaced by an automatic exchange of 200 lines. At present work is in progress at the Breeka exchange to raise it to a 400-line especity. This is expected to be achieved within a month's time.

Courade Sahlu reported that the Mekele local exchange with a capacity for 1,000 lines is hoped to become operational three months later. It will be an automatic exchange replacing the previous manual system with a capacity of 500 lines. Automatic local exchanges with a capacity of 600 lines have been installed in Shashamane and Awassa. The automatic exchange in Dessie is to be extended by another 1,000 lines bringing the total to 2,000.

The exchange branch chief also mentioned Jimma is connection with the fifth five-year development plan. Jimma has received a subscriber truck dialling system (5TD), which allows customers direct access to other automatic exchanges in the country. Installation of an STD system is underway in Gondar, which has an automatic exchange with 1,000 lines. Dire Dawa's automatic exchange of 2,000 lines is to be increased by another 600 lines. Namerth's automatic exchange has been valued to 2,000 lines by the addition of 1,000 new lines.

Gomerade Sahlu noted that healder Jimms the STD system has been introduced in Nezareth, Assah, Dire Dawa, Harrer and Mekele is expected to have it after three months. Bahr Dar is to have an automatic telephone exchange with 690 lines, which will take around 10 months to install, Comrade Sahlu pointed that the installation of the international exchange in Addis Ababa is a significant outcome of the fifth development plan.

The fifth five-year plan, launched in 1974 has cost the ETA about 125 million Birr. Similar activities conducted during this period were enumerated by the head of the exchange branch, These include upgrading and installation of manual switchboards and pay stations in urban centres and small towns across the country. An estimated 20 million Birr has been expected for the installation of exchange equipment in the fifth development plan.

The exchange branch chief gave further information on some of the activities to be undertaken in the course of the sixth five-year development plan, which is to be launched in 1982 and whose total financial commitment is set at shout 281 million Birr.

The sixth development plan will embrace the installation of new automatic telephone exthanges Debre Markos. Debre Berhan, Goba, Metu, Arba Mintch, Nekempte, Agaro, Dilla, Assela, Adi Ugri, Deke Mehari and Koren, in place of the existing manual exchanges. Upgrading and installation of new manual exchanges are to be introduced in small towns in different parts of the country under this programme.

Furthermore the national exchanges in Addis Ababa, Dussie, Asmara, Shashamone and the international exchangs located in the capital city are to be extended while new national exchanges are to be set up in Jimms and Bahir Dar. An estimated 62 million Birr is to be spent for the installation of transmission system including buildings and allied services under the sixth five-year development plan, the exchange branch chief concluded. WEW TELEPHONE EXCHANGES BEING BUILT IN ADDIS ABABA

Addis Ababa THE ETHIOPIAN HERALD in English 6 Jan 81 p 6

[Text]

ADDIS ABABA (EII) — Work is in full progress for the installation of these out of four new automatic telephone exchanges being built in different some of the city, it was aunounced here yesterday.

The information was released by Comrede Sahlu Beauneh, Exchange Branch Chief, in an interview with The Ethiopian Hereld yesterday. He said the fourth branch, located in the Bole area became operational in September 1980. It will have a capacity for 5,000 lines but could be extended further to handle up to 10,000 lines, Comrede Sahlu a dded. Over 50 per cent of the 5,000 lines have become operational.

The four new exchanges are expected to have a combined capacity for 26,000 lines compared to the city's existing exchanges with 39,500 lines. The exchange branch chief said, the installation of the Bole exchange will enable the Ethiopian Telecommunications Authority (ETA) to serve more customers in the area. The second advantage is that it will be considerably lessen the congestion in the telephone system, which was characterized by a serious "tone delay". The Bole some digits start with 18 and could be extended to 19 in future. Digits currently in use in the city are those beginning with 11, 12, 15, 44 and 18, the latest one.

The three remaining exchanges ero being set up in Addis Ketema, New Abbatoks and the Old Airpost area. The one in Addis Ketoma, now undergoing functional test is to become operational by the end of April, this year. It will have digits starting with 13 and will have a capacity for 8,000 lines but in extendable up to 10,000 in future. The third exchange to boing built in the New Abbesoirs area and will have a capacity for 8,000 lines which is expected to be raised to 10,000 line in keeping with oustomer domand. It will have digits starting with 16.

Comrede Sahlu said, the fourth exchange will be built in the Old Airport area and will have a capacity for 5,040 lines which could be extended to 10,000 lines in future. Installation of equipment will begin after three menths and will require another 11 months to become operational. It is expected to raise the capacity of the

Bulc and Addis Keterna exchanges by another 10,000 lines each under the sixth five-year development plan to be launched this year. According to Comrade Sahlu, the planned expansion scheme for the two areas appears vital because they are developing fast and are densely populated.

Under the sixth development plan, a new exchange with a capacity for 10,000 lines will be installed in the Addile Ketema area. The same will hold true for the New Abbateirs area, where a new exchange with 10,000 lines capacity is to be built. The Old Airport some exchange will be extended by 5,000 lines bringing the total to 10,000.

Total cost of the four exchanges being built in Addis Ababa is set at about 12 million Birr covering only installation of exchange equipment and related expenses. Each of the four exchange buildings is expected to cost around 600,000 Birr, thus bringing the total to 2.4 million Birr.

050: 5500

MICROWAVE SYSTEM OPENS--The Ethiopian Telecommunications Service Authority has opened a new microwave system linking Addis Ababa, Gondar, Bahar Dar and Debre Markos. According to the public relations office of the authority, the cost of the new microwave system was nearly 7 million birr. In its sixth 5-year development program, the authority plans to extend the microwave system from Gondar to Metema and Gedaref, thus linking Ethiopia and Sudan. [Text] [LD100524 Addis Ababa Radio in English to neighboring countries 1530 GMT 9 Jan 81 LD/EA]

TV2 PREPARATIONS -- At the beginning of the new year about 80 Black members of the SABC staff began a training course in all aspects of video work. This is the third group of programme staff of TV2 to receive training in preparation for the introduction of a new service, which will begin transmission within the year; officially, the service will begin in January 1982. Both the previous courses were on the film aspect of television. Up to now about 275 people have been appointed for the second TV channel. Apart from the few new staff, all these appointments are for Johannesburg and, with the exception of 45 Whites, all the appointments made hitherto are Black. Ultimately, approximately 1,000 people will be employed by TV2--90 percent of them Black. The countdown to transmission has already begun, and things are well underway on all other fronts. The transformation of Broadcast House in Commissioner Street is going ahead and keeping up with the time schedule laid down for it. At the end of January, SABC technical staff will begin work on electro-technical installations on the third floor of the redesigned Broadcast House. The old Welfare House behind Broadcast House will be joined to Broadcast House by a bridge across Fox Street which, at present, divides the two buildings. [Text] [Johannesburg THE CITIZEN in English 21 Jan 81 p 12]

LARGE INVESTMENTS PLANNED TO IMPROVE PHONE SERVICE

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 8 Jan 81 p 9

[Article: "Postal Department To Improve Telephone System"]

[Text] Bonn, 7 Jan 1981—The German Postal Office is facing the greatest investment program in its history. By 1986 it will have put about DM 18 billion into expanding the telephone system. This program will be financed without changing the capital structure, with 40 percent of the funds coming from the Postal Office and 60 percent from outside capital. This year the Postal Office will invest DM 3 billion for handling 30,000 to 50,000 additional long-distance, direct-dialing circuits, thereby expanding the telephone system by 10 to 12 percent. State Secretary Dietrich Elias of Bonn's postal ministry hopes that the system will thereby satisfy the telephone demand which has grown rapidly in recent years in the PRG. The vexing telephone bottleneck evenings and Sundays should be relieved.

Elias indicates that he is satisfied with the new rate structure which became effective on 1 April 1980. System jamming triggered by application of night rates at 2200, which made telephoning practically impossible, has disappeared; however, new bottlenecks have cropped up in recent months during the new low-rate periods between 1800 and 2200 and on Sundays. Elias relates this, among other things, to the fact that telephone customers are increasingly doing their calling during the reduced rate periods. Postal measurements have shown that today 46 percent of all telephone traffic is arranged for low-rate periods evenings and weekends. This is not just the result of establishing a relatively expensive standard rate and an attractive low rate; it is also due to the increasing demand on the telephone system by private customers who find it convenient to call in the evening and on weekends. While 10 years ago two-thirds of all telephones belonged to businessmen and only one-third were used by private persons, today 78 percent of the nearly 20 million primary connections are for individuals and only 16 percent for businesses.

This structural displacement in favor of private telephone traffic compels the Post Office to align the capacity of the system increasingly with the evening and weekend demand. "That is a completely new investment policy for us", observes Elias. Whereas 10 years ago the Postal Office wanted to make the low traffic periods in the evening and on weekends attractive to the public through

special offerings, today it has to aim its investments solely toward the low-rate end of the spectrum. Elias hopes that system jamming will be reduced in the early part of the year just by reduced telephone use; the department will be able to handle the expected peaks in May and in the fall with the planned new circuits.

The request by Bavarian Economics Minister Anton Jaumann for reintroduction of the "moonlight rate" around 2200 was denied by Elias on the grounds that the Post Office would probably start the telephone jam again which was just solved with the new rate structure. The department has several times attempted to lower the prevailing night rate I; however without success. Today's uniform low rate has produced a broad traffic peak between 1830 and 2000. Finally, the investment plans of the Post Office have been attuned to the reduced rate and could be changed only "with much time delay". Each new rate change would result in a misdirection of investment. Thus, Elias confirms indirectly that the Post Office plans no new rate reductions, of the standard rate for example, in the foreseeable future.

9160

MINISTER: USSR MAY JOIN TELE-X SATELLITE COMMUNICATIONS PROJECT

Helsinki UUSI SUOMI in Finnish 31 Dec 80 p 7

[Article: "Space Technology to Receive Funds"]

[Text] The 6-month old space work group, which turned over a unanimous report to Trade and Industry Minister Ulf Sundqvist on Tuesday, proposes that Finland participate in various satellite projects and join the European space organization ESA as an associate member.

The work group's proposals means the doubling of space technology funds within a 5-year period. The need for funding will increase correspondingly so that in 1985 20 million markkas will be needed for development projects in this field and 10 million markkas will be needed for training. By the end of this century industry, for its part, may have a total sales in space equipment amounting to 1-2 billion markkas.

According to the projections of the work group Finland's activity in the area of space technology are at this time insignificant in relationship to other industrialized countries. In Sweden, Denmark, and Norway a total of 200 million markkas have already been expended on space activities.

In the Summer a Stand on Sweden's Satellites

The work group will also be taking a stand on the much-discussed NORDSAT project, which when completed will provide Finnish enterprises a nearly 3-billion markka market in receiving equipment over a period of 20 years. According to the work group Finland must produce a television satellite aimed at the Nordic countries and actively participate in its planning.

Another more timely satellite project must be decided on by Finland next summer when the Ministry of Trade and Industry must decide whether Finland will participate in the development expenditures of Sweden's data transfer satellite, Tele-X. The intent is to launch the Tele-X satellite into its orbit over the equator in 1986. It can also be used for television transmission.

The space group's report proposes that Finland participate in the project if the satellite is equipped with one television channel for Finnish-language programming. The satellite's area of coverage would have to be expanded so that it would also include Finland.

The work group emphasizes that the Tele-X satellite can be used to conduct experiments on overall radio system receivers for Nordsat.

Cooperation with the Soviet Union

Cooperation is also being sought with the Soviet Union since that country intends to launch its own radio satellite within the current decade. At that time opportunities for developing satellite equipment will open up for Finland.

In addition to satellite receivers, meteorological and long-distance cartograph land stations as well as small land stations for data transfer are considered to be important product groups for Finnish industry. Other equipment connected with the space industry will not be given as much attention.

The Finns already have some experience and readiness with respect to land stations serving weather satellites. The work group proposes that Finland establish a development project, by which knowledge in the area will be increased and new products will be developed. The products will primarily be intended for meteorological measurements, but they could also be used for other environmental observations.

The small data transfer land stations can be used to maintain two-directional contact with satellites, and their possibilities for various applications are extensive. The work group proposes that Finland even begin the construction of these stations, which by the end of this century could amount to a market of 200 million markkas.

According to the work group the creation and development of a European space industry can be partly credited to the work of the European space organization ESA. Nearly all West European countries are members or associate members of the organization. Finland should also send its application for associate membership to the ESA.

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## TELECOPORUNICATIONS AGENCY PLANS REORGANIZATIONS

Stockholm SVENSKA DAGBLADFT in Swedish 26 Oct 80 pp 16

[Text] The 43,000 employees of the National Telecommunications Agency [Televerket] learned of plans to reorganize the agency after the information was leaked to the press on Friday.

A holding company called Teleinvest AB will be set up over four subsidiaries to direct its present business activities in alarm systems, alarm system control centers consulting work, and the production of electronic equipment among other things.

Overall, the reorganization also permits the use of "private" equipment such as telephone answering machines, tape recorders, bells, variable intercept computers, etc. But even on the Swedish market importing foreign telephones will someday come to an end. Yet the equipment should satisfy certain technical requirements established by Televerket. Dissatisfaction with one of the agency's decisions may be voiced before an appeal board.

The reorganization proposal will first go to the State Negotiating Council before becoming a bill. If the parliament passes the government's bill, the new holding company could be set up January 1, 1981.

Objections to the division of assets have already been heard from the State Employee's Union. Section - 4 telecommunications, cautions against letting multinational corporations into Televerket's territory and grabbing up the most profitable areas, like the big cities, for themselves. This means less service and higher rates in sparsely populated areas, warns the telecommunications section of the State Emplyees Union.

About 4,000 of Televerket's 43,000 employees would reappear in the company which it would then own. "The idea is that any future activities with other companies should be carried on in a corporate manner," Sven-Roland Letzen, Televerket's economic director, says to the Press Wire Service. Televerket's original bill sought to establish a finance company called Telefinans, which would manage large investments.

Now the government would rather have the agency maintain 800 million Kronor in capital assets in the National Debt Office so that its identity as a public utility would be maintained.

Televerket's new holding company, Teleinvest, will issue stock certificates, but they will not be the same shares held jointly with LME in the development corporation Elemtel. Teleinvest will have four subsidiaries. The alarm company will be formed no later than July 1982 and the five Teli/Tefab manufacturing plants will be organized into one company by 1985. The consulting firm Swedtel will emerge like the alarm system company SOS AB which is half owned. "The reorganization will really not mean much to the employees; there will be no reduction in personnel and no one will be made to leave," says Letzen.

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#### COUNTRY BECINS TELEPAX SERVICE

Stockholm TELE in Swedish No 3, 1980 pp 1, 2

[Article by Martha Akesson, head of Televerket's marketing and administration in the telecommunications section (Dt) and marketing department for data communications in the central administration]

[Text] The formal decision to begin the Telecommunications Agency's public telefax service was conceived by the Telecommunications Board in May 1979 and first demonstrated in conjunction with a large trade show - DataKontor, Infoprint, in the fall. Service began in March 1980.

The Scope of the Service

Telefax is an end-to-end service, which means that in addition to terminals it includes stations and networkwide traffic with corresponding public services abroad; also included are Telefax Directories and number directories, consulting services and public telefax machines. The Telefax Directory comes out several times a year during the organizational period; during 1980 the directory appears in April, June, September and December. Updating and producing the directory are the same as for Televerket's other directories. Updating is handled by one telecommunications district (Kalmar) for the whole country. The number directories, which are naturally right up-to-date, are combined with telephone service. The access numbers are 90140 for the Nordic countries and 0019 for other countries. Consultants are responsible for customer training, which is generally the same as for telex. Postfax and Kundfax enable telefax subscribers to send telefax to receivers without a telefax machine.

Postfax already is available in 20 post offices throughout the country and Kundfax will be available at approximately 40 locations as of July 1, 1980. Hessages received "over-the-counter" may even be sent over these public telefax machines. There are various methods of delivery, like, for example, special delivery mail service. Postfax is a 2-year experiment conducted in conjunction with the postal service. Telefax service is offered on a subscription basis requiring 3-month's notice of termination. Service is included.

# Training

Service began simultaneously throughout the country. Training for service personnel took about one week and consisted of a total of six courses. The training for [wrong-number] directors was about one week and five courses were held; sales training was also about one week and three courses were held. Sales training continued independently in each local area. Number information personnel and directory mailing personnel received their training from printed information sent by the respective training groups. General information about telefax was distributed in various forms to the other personnel groups by way of printed advertising material and other forms of demonstration, such as an open house, among other things.

#### Sales

Promotional sales was conducted through a large dispersion of personal sales with conventional means of sales support such as advertising in the local press and trade periodicals, participation in trade fairs, exhibits, and other similar methods. Since telefax is a new idea for most prospective customers, they have been invited to try out the equipment. This has also facilitated the private company's business dealings with the government as required by the Codetermination Act prior to applying for a subscription. In Stockholm a special sales group has been set up to sell telefax. By the end of June, early July 1980, almost 700 machines had been installed, of which about 60 were for public use.

# Growth and Development

Development towards more rapid machinery can be expected. Televerket is still apt to guarantee the prospects of joint service between different generations of machinery, and this evidently applies also to telefax service. International postfax, or bureaufax, as known internationally, will most likely open up with corresponding services abroad.

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19 Feb. 1981

